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REMARKS

Claims 1-26 were pending in the above identified application. Claims 1, 6-8, 13, 15, 16, 18-21, and 23-26 have been amended. Claims 2-5 and 9 have been cancelled. Claims 1-26 were rejected under 35 USC 112, first paragraph. Claims 1-26 were also rejected under 35 USC 103 as being unpatentable over Bier et al in view of Martin (Claims 1-5, 7, 9, 10 and 12-26) and Perry (Claim 6) and Dubrow (Claim 8) and WO 92/15,870 (Claim 11). Application respectfully submits that claims 1-26 are in condition for allowance for at least the reasons articulated below.

REJECTION UNDER 35 USC 112, FIRST PARAGRAPH

Claims 1-26 are rejected under 35 USC 112, first paragraph, because "the examiner cannot find any explicit support in the specification" for the limitation that the isoelectric substance has a characteristic size that is larger than the pore size of the ion-permeable barrier. Applicant believes that the text cited by the examiner on pages 5 and 6 of the specification and similar passages elsewhere in the specification make clear that the applicant had possession of the invention as previously claimed. However, in view of the examiner's comments Applicant has amended the claims to conform specifically to the language in the specification and to delete the language referenced in the present rejection, so as to further make clear that the Applicant was in possession of the invention as claimed. As such, Applicant requests that the rejection on this basis be reconsidered and withdrawn.

REJECTION UNDER 35 USC 103

Claims 1 – 5, 7, 9, 10 and 12- 26 stand rejected under 35 USC 103 over Bier et al in view of Martin et al. These claims have now been further amended, and Applicant traverses for at least the following reasons.

Regarding the cited prior art, the apparatus of Bier et al has a series of permeable membranes positioned apart to form a series of chambers disposed between two

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electrodes. In use, isoelectric substances can move through the membranes allowing focusing of desired compounds. The carrier ampholytes cannot be trapped in Bier et al's separation compartments that are formed between his non-ionic membranes, anodic and cathodic drift occurs, and a constant pH cannot be maintained in these compartment over time as required for proper separation. The effects of such anodic and cathodic drift can plainly be seen in the Tables of Bier et al. This drift can adversely impact separation, particularly if the pI difference is less than the extent of the drift.

Martin et al attempted to address the issue of anodic and cathodic drift, but in a manner substantially different than the present invention. Martin disclosed that drift can be addressed to some extent if weak acid and weak base functional groups present in the carrier ampholytes are covalently bound to an immobile matrix, such as agar matrix, because the covalently bound functional groups cannot migrate away from the matrix under the pull of the electric field. However, Martin's proposed method of incorporation of the weak acid and weak base functional groups into membranes is not complete, and in any case is far different from the teaching of the present invention.

In the present invention, Applicant realized that polymeric isoelectric substances can be filled into a space created between two non-ionic porous materials, e.g., between two non-ionic porous membranes or barriers. The filling operation does not alter the characteristic pI values of the polymeric isoelectric substances. Thus, the present inventor has created a new isoelectric gateway. Inside the isoelectric gateway, the pH is maintained (just as in an isoelectric membrane) by the isoelectric substance at the desired pI value. In the present invention, the isoelectric substance is physically contained, not covalently bound to the isoelectric membrane, as in the prior art.

The present invention thus is directed to an isoelectric gateway formed by disposing an isoelectric substance between two barriers which prevent movement of the isoelectric substance therethrough. Claim 1 has been expressly amended to state this characteristic of Applicant's invention. Specifically, the gateways according to the present invention can be formed *in situ* and do not require specialised isoelectric membranes or require the addition of ampholytes or other isoelectric substances to an electrophoresis run.

In short, Bier does not even attempt to address the problem of anodic and cathodic drift. Martin understands the problem but attempts to address the problem in a fundamentally different way. In view of the widely different approaches of Bier and Martin, there is no combination of these two references that renders Applicant's claimed

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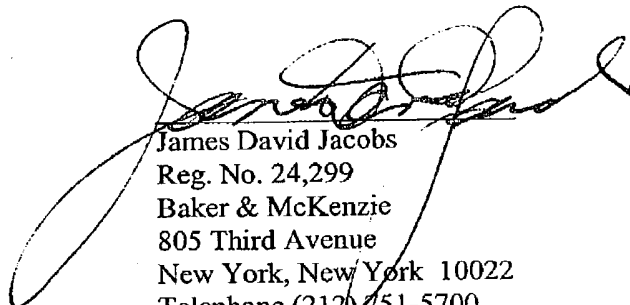
invention obvious. Accordingly, favourable consideration of the claimed as amended is respectfully requested.

Also, the remaining references do not disclose the limitations of Applicant's invention as presently claimed, either alone or in combination with the other art of record. Accordingly, Applicant also respectfully requests favourable consideration of claims 6, 8, and 11.

CONCLUSION

Applicant respectfully submits that this response places the present application in condition for allowance. Favorable Action is hereby requested. If a further telephone interview would be of assistance in advancing prosecution of the present application, the Examiner is requested to telephone the undersigned at the number provided below. While no fee is believed due, if any fee is due, please charge deposit account number 02-0393.

Respectfully submitted,



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